

Talking Points in Opposition to Legalization of Raw Milk sales and distribution in Montana

The Association of Montana Public Health Officials, The Montana Environmental Health Association and the Montana Public Health Association oppose LC 1110 for the following reasons:

Raw Milk and Disease

- * **Pasteurization of milk is a public health success!** Before 1938, 25% of all food and waterborne illnesses were associated with milk. Today, the percentage is below 1% due to pasteurization.
- * **CDC estimates that the risk of an outbreak from raw milk is 150 times greater** than the risk from pasteurized milk. Since 1998, a total of 119 outbreaks, 2,147 illnesses, and 2 deaths have been attributed to consumption of raw milk, raw colostrum and raw milk products. Outbreaks are associated with raw cows' milk and raw goat's milk, as well as cheese made from raw milk.
- * In 1980, a large outbreak of Salmonellosis (a bacterial infection) was traced to a local dairy in Montana. 105 people were sickened. (CDC MMWR, May 1981, Vol. 30, No. 18)
- * Occurrence of outbreaks due to raw milk has been found to correlate with the legal status of raw milk sale within a state. In a review of raw milk associated outbreaks reported to the CDC during 1972-1992, it was found that the rate of raw milk-associated outbreaks was higher in states in which the sale of raw milk was legal (Headrick et al, 1998)
- * The week of January 20, 2015, it was reported in Food Safety News that the Old Silvana Creamery in Arlington, WA state recalled some batches of raw milk with potential campylobacter (bacteria contamination) discovered during their WEEKLY sampling. (MT bill proposes much less stringent requirements).

Top pathogens implicated in raw milk outbreaks in the United States include *Campylobacter*, *E. coli* O157:H7, *Salmonella*, *Listeria monocytogenes*, and *Brucella*. However many other pathogens have been identified in raw milk, including causes of shigellosis, toxoplasmosis, yersiniosis, Q fever, and bovine tuberculosis. *Mycobacterium paratuberculosis*—the organism responsible for Johne's and suspected etiological agent of Crohn's disease in humans—has also been found in raw milk.

- * Young people under 20 years old represent approximately 60% of raw milk illnesses during outbreaks reported to CDC. Raw milk is also more likely to cause hospitalization from the most dangerous foodborne pathogens such as *E. coli* O157:H7. In contrast, *E. coli* O157 outbreaks have not been attributed to pasteurized milk in the US.
- * Pathogens associated with raw milk can complications such as Guillain-Barre, and Hemolytic Uremic Syndrome, as well as long-term complications such as reactive arthritis.

Position statements by Professional Organizations and Agencies

- American Medical Association (AMA) "The AMA reaffirms its policy that all milk sold for human consumption should be required to be pasteurized"
- American Veterinary Medical Association (AVMA) "Because apparently healthy cows and goats can shed in their milk organisms which are pathogenic to human beings and may cause diseases...only pasteurized milk and milk products should be sold. Furthermore, the AVMA supports laws requiring pasteurization of all milk to be sold..."
- Food and Drug Administration (FDA) "In light of research showing no meaningful difference in the nutritional value of pasteurized and unpasteurized milk, FDA and CDC have also concluded that the health risks associated with the consumption of raw milk far outweigh any benefits derived from its consumption...The U.S. Food and Drug Administration...strongly advises against the consumption of raw milk."
- American Academy of Pediatrics (AAP) "Children...should never drink raw milk or consume products made from raw milk, such as cheese or yogurt"

Medical and Public Health/Livestock response costs

There is limited information available concerning the total costs of a raw milk outbreak. We do know that E. coli O157 can cause death and often causes kidney damage. An E. coli O157 outbreak in Connecticut in 2008 linked to raw milk sold The average medical cost for a hospitalized case patient was \$72,904. The average cost per case-patient incurred by government investigative and response activities was \$3,491. Other E. Coli individual treatment costs from raw milk outbreaks have been documented up to \$550,000.

Historical Lens

- In the late 1800s to the early 1900s, infant mortality could be as high 30%, and 10% of children died by 5. Milk was to blame for many of the deaths, especially during the summer months where diarrheal illnesses called "summer typhoid" sickened children through contaminated milk and food.
- Starting in 1893, philanthropist Nathan Straus, founder of Macy's, set up milk pasteurization stations, including one that supplied an orphanage. The orphanage had suffered at 42% mortality rate from milkborne illnesses—a rate of two for every five children. After receiving pasteurized product from Straus, the death rate dropped to 28%, or in one in four, and continued to decline.
- After an outbreak of Typhoid fever via milk killed thousands in NYC, milk was required to be pasteurized. By 1915, the infant mortality rate dropped from the previous 27% in 1885 to 9.4%.

Review of Risks and Benefits

Food Control published a Belgian study in 2012 which revealed the following:

- Heating may modify proteins in milk, but research has shown it doesn't affect their digestibility or nutritional properties.
- Studies show heating does not negatively affect the fats in milk.
- The vitamins most affected by heating are Vitamin C and Thiamine, two vitamins not found in abundance in raw milk and best obtained from other dietary sources. In order to get one's daily allowance of these heat-sensitive vitamins, one would need to drink 20L. Compare this to getting your daily allowance of Thiamine from 3oz of pork and a cup of rice, or getting your daily vitamin C from a glass of fruit juice. Eating a standard diet will easily provide these vitamins with significantly less risk.

- There is no difference in minerals with the exception of iron, copper, and zinc, which again are not found in high levels are easily obtained through other foods in the standard diet.
- There is not effect on calcium levels.
- The amount of lactose is the same in both raw and pasteurized milk. Until milk is allowed to ferment, this sugar does not change into a more digestible form, thus raw milk doesn't help the lactose intolerant.
- To get the benefits of 'good bacteria' in raw milk, one would need to consume 1000 to 10,000 times the amount typically found in raw milk. There are better sources such as yogurt or kombucha.
- The milk enzymes destroyed by heating are not essential to the human diet. No studies have demonstrated that they are essential. Additionally, these enzymes are destroyed once they hit the stomach anyway.
- No scientific link has been established between raw milk and the prevention of osteoporosis, diabetes, or CVD.
- Observations that children who grow up on farms and drink raw milk as children have decreased asthma and increase immune function is more positively linked to exposure to animals and the farm environment rather than raw milk.

Comparison of Proposed Law to CA, WA, OR

- All require warning label that specifically addresses increase in illness. CA and WA warning against giving it to children
- CA, WA, and OR do not exempt dairies from liability
- Oregon only allows 2 cows without inspection
- WA and CA do not limit herd size, but require regular inspection and monthly testing
- WA and CA have inspection and/or permitting fees more proportional to the cost of covering the program— exceeding the \$20 proposed

Amendments necessary to insure adequate information and public protection

1. Farms should be required to have insurance coverage sufficient to cover reasonable damages to their customers. A one million dollar liability policy would not be unreasonable.
2. Warning signs on products and at point-of-purchase should be mandatory. An example:

WARNING

Unpasteurized milk, also known as raw milk, is a raw agricultural product and may contain harmful bacteria (not limited to E. coli, Campylobacter, Listeria, and Salmonella) and can lead to serious injury and even death. Pregnant women, infants, children, the elderly, and persons with lowered resistance to disease (immune compromised) have higher risk for harm, which may include bloody diarrhea, vomiting, fever, dehydration, Hemolytic Uremic Syndrome, Guillian-Barre Syndrome, Reactive Arthritis, Irritable Bowel Syndrome, miscarriage, or death.

3. 11 states that allow raw milk sales have a coliform standard of $< 10/\text{mL}$ (AZ, CA, ME, NH, NV, OR,, PA, SC, UT,VT, WA) New section 2 of HB 574 would allow up to 25 per milliliter (there are 3785 milliliters in a gallon). The coliform standard in the bill should be lowered to <10 .
4. New section 1 of house bill 574 defines a small herd as " fewer than 15 lactating cows, 30 lactating goats, or 30 lactating sheep, except that the dairy herd may include other cows, goats, or sheep that are not lactating or are producing milk for purposes other than human consumption." This represents a large amount of raw milk. Lactating cows will produce about 6.5 gallons of milk per day. 15 cows represents about 100 gallons of milk per day. Larger herd size represents more risk because the milk is usually comingled for cold storage. On infected cow contaminates all of the milk. The smaller the herd size, the lower the risk of a large outbreak. For example Oregon allows sales of raw milk only from farms with no more than two producing cows, nine producing sheep and/or 9 producing goats. The allowed herd size in this bill should be lowered to not more than 5 cows or 15 goats or sheep.